

Overview of International Space Station Carbon Dioxide Removal Assembly On-orbit Operations and Performance

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Controlling Carbon Dioxide (CO₂) partial pressure in the habitable vehicle environment is a critical part of operations on the International Space Station (ISS). On the United States segment of ISS, CO₂ levels are primarily controlled by the Carbon Dioxide Removal Assembly (CDRA). There are two CDRA's on ISS; one in the United States Laboratory module, and one in the Node3 module.

CDRA has been through several significant operational issues, performance issues and subsequent re-design of various components, primarily involving the Desiccant Adsorbent Bed (DAB) assembly and Air Selector Valves (ASV). This paper will focus on significant operational and performance issues experienced by the CDRA team from 2008-2012.